

## CLAIMS

What is claimed is:

1. A communication system operative over a common medium, the system comprising:
  - a. a plurality of transceivers, each transceiver comprising:
    - (1) a resonant circuit;
    - (2) an antenna coupled to the resonant circuit;
    - (3) a transmitter; and
    - (4) a receiver; and
  - b. a monitor comprising:
    - (1) a first transmitter;
    - (2) a first receiver; and
    - (3) a processor that performs a method comprising:
      - transmitting into the medium from the first transmitter a first frequency for a first duration;
      - after lapse of the first duration, receiving via the first receiver a response signal from the medium from at least one of the resonant circuits;
      - determining a second frequency from the received response signal; and
      - performing transceiver communication via the medium using the second frequency.